

Responding to the events of September 11, 2001, the Connecticut Department of Public Health initiated a daily hospital admissions syndromic surveillance (HASS) reporting system. Each of the 31 acute care hospitals statewide were required to report the number of the preceding day's nonscheduled admissions; these were categorized by admission diagnosis into 11 different syndromes, including pneumonia, hemoptysis, respiratory, neurologic, non-traumatic paralysis, sepsis and nontraumatic shock, fever with rash, fever of unknown cause, gastrointestinal, skin infection, and clusters of illness. From November 2001 through July 2002, the average number of unscheduled admissions per million population per week and range per week for each syndrome was as follows: pneumonia 93.2 (35–147), hemoptysis 1.2 (0–3.2), respiratory 12.5 (1.2–21.8), neurologic 2.2 (0.3–5.3), nontraumatic paralysis 1.2 (0–4.1), sepsis and nontraumatic shock 17.4 (12–22), fever with rash 0.9 (0–2.1), fever of unknown cause 10.3 (5.6–16.2), gastrointestinal 26.8 (11–37), skin infection 0.1 (0–0.9), and clusters of illness 0.4 (0–3.5). A total of 18 possible outbreaks were detected, including 9 pneumonia, 3 skin infections, 2 respiratory, 2 gastrointestinal, 1 hemoptysis, and 1 paralysis. There were 6 additional “pseudo-outbreaks” that, on investigation, were rapidly determined to be the result of data entry error by the hospitals. The baseline weekly rates were low enough to be sensitive to moderate increases in the rate of admission, and admissions for pneumonia, gastrointestinal illness, and sepsis were the most common. Comparison with similar data from other systems and validation of the data obtained is needed to determine better the ongoing utility of this system.

A Comparison of Syndromic Incidence Data Collected by Triage Nurses in Santa Clara County With Regional Infectious Disease Data

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We compared data from a syndromic surveillance system for the early detection of bioterrorism-related illness with regional infectious disease data to estimate the surveillance characteristics of the syndromic data. Since October 2001, nurses in 12 emergency departments and 1 telephone care center in Santa Clara County, California, have recorded whether each patient triaged has none, one, or more than one of six clinical syndromes associated with bioterrorism-related illnesses (e.g., influenzalike symptoms, fever with mental status changes, and acute respiratory distress). Triage nurses fax or e-mail the syndromic data to the health department at the end of each shift; the data are analyzed and distributed to public health officials. Over the first 302 days of data collection, triage nurses reported data on 307,684 patients. Numerous daily counts in excess of 3 standard deviations above the mean were investigated, but did not result in the identification of previously unknown disease outbreaks. Only the influenzalike illness syndromic data demonstrated a discrete outbreak. We compared these data to state influenza surveillance data. The slope of the influenzalike illness syndromic data first deviated from its baseline the week of January 20 and reached its maximum during week of February 17—the same weeks that the state surveillance data first detected the influenza outbreak and reached its peak. We concluded that a syndromic surveillance system based on triage nurses could detect influenzalike illness with timeliness and sensitivity similar to traditional infectious disease surveillance data. Whether this syndromic surveillance system can detect bioterrorism-related illness is unknown.

Using Existing Electronic Hospital Data for Syndromic Surveillance

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